

**Amendments to the Claims:** This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1.-7. (Cancelled)

8. (New) A semiconductor device having a titanium material layer and a silicon oxide layer produced by a process including the step of:

etching at least one of the titanium material layer and the silicon oxide layer using an etchant, wherein

the titanium material layer includes at least one material selected from the group consisting of  $\text{BaTiO}_3$ ,  $\text{SrTiO}_3$ ,  $\text{Ba}_x\text{Sr}_{(1-x)}\text{TiO}_3$ , and similar Group IIA metal titanates; and

the etchant includes a mixed liquid of HCl,  $\text{NH}_4\text{F}$  and  $\text{H}_2\text{O}$ ; and

setting a molar ratio of  $\text{NH}_4\text{F}/\text{HCl}$  in the mixed liquid, the molar ratio being set based on which of the at least one of the titanium material layer and the silicon oxide layer is to be etched.

9. (New) The semiconductor device having a titanium material layer and a silicon oxide layer produced by a process according to claim 8, wherein the step of setting a molar ratio of  $\text{NH}_4\text{F}/\text{HCl}$  includes setting the molar ratio of  $\text{NH}_4\text{F}/\text{HCl}$  to less than 1 in the case where the titanium material layer is to be etched.

10. (New) The semiconductor device having a titanium material layer and a silicon oxide layer produced by a process according to claim 8, wherein the step of setting a molar ratio of  $\text{NH}_4\text{F}/\text{HCl}$  includes setting the molar ratio of  $\text{NH}_4\text{F}/\text{HCl}$  to less than 1 in the case where the silicon oxide layer is to be etched.

11. (New) The semiconductor device having a titanium material layer and a silicon oxide layer produced by a process according to claim 8, wherein the step of setting a molar ratio of  $\text{NH}_4\text{F}/\text{HCl}$  includes setting the molar ratio of  $\text{NH}_4\text{F}/\text{HCl}$  in the range from about 0.8 to about 1.2 in the case where both the titanium material layer and the silicon oxide layer are to be etched.